

ABSTRACT

A synchronous rectification circuit of the winding voltage detection system by use of a resistance device is provided on the secondary side of a compound resonance type converter, whereby a high power conversion efficiency can be obtained, and a reduction in the circuit scale through circuit simplification can be contrived. The gap length of an insulated converter transformer (PIT) is enlarged to set the coupling coefficient at about 0.8, and the numbers of turns of the primary winding (N_1) and the secondary windings (N_{2A}), (N_{2B}) are so set that the induced voltage level in the secondary winding is not more than $2 V/T$. This is for causing the secondary-side rectified current to be in a continuous mode even under a heavy load condition by setting the magnetic flux density of the core in the PIT to be not more than a predetermined value. Further, with inductors (L_d), (L_0) inserted into each rectified current circuit on the secondary side, the back electromotive forces in the inductors suppress a backward current generated in the rectified current, whereby a further reduction in the reactive power can be contrived. Besides, with the inductor (L_0) inserted, high frequency noises

said to be superposed on the secondary-side DC output voltage (E_0) are suppressed.